AMENDMENTS TO THE CLAIMS

1. (Previously presented) Infrared (IR) measuring device, for essentially simultaneous, qualitative and quantitative determination of components in nonaqueous and aqueous systems, comprising:

at least one measuring unit having at least one ATR body and at least one infrared light source, wherein the at least one ATR body has at least two plane, essentially parallel boundary surfaces and is transparent or partially transparent to measuring radiation and has a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface where the measuring radiation is middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times on at least one of the planes, parallel boundary surfaces of the at least one ATR body, wherein the at least one infrared light source includes one or more quantum cascade lasers that can emit electromagnetic radiation of at least one defined frequency or of at least one defined frequency band.

2. (Previously presented) Infrared measuring device according to Claim 1, including at least one computer-aided evaluation unit.

3. (Previously presented) Infrared measuring device according to Claim 2, wherein the at least one evaluation unit can be replaced by a second or further evaluation units.

4. (Canceled)

5. (Previously presented) Infrared measuring device according to Claim 1, wherein the plane, essentially parallel boundary surfaces are essentially not metal-coated.

6. (Canceled)

7. (Previously presented) Infrared (IR) measuring device, for essentially simultaneous, qualitative and quantitative determination of components in nonaqueous and aqueous systems, comprising:

at least one measuring unit having at least one ATR body and at least one infrared light source, wherein the at least one ATR body has at least two plane, essentially parallel boundary surfaces and is transparent or partially transparent to

measuring radiation and has a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface where the measuring radiation is middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times on at least one of the plane, parallel boundary surfaces of the at least one ATR body, wherein the infrared light source includes one or several quantum cascade lasers wherein two or more of the quantum cascade lasers can emit electromagnetic radiation of different frequencies and/or of different frequency bands, in the middle infrared region.

8. (Previously presented) Infrared measuring device according to Claim 7, wherein the two or more quantum cascade lasers can simultaneously or almost simultaneously emit the electromagnetic radiation of the different frequencies, and/or of the different frequency bands.

9. (Previously presented) Infrared (IR) measuring device, for essentially simultaneous, qualitative and quantitative determination of components in nonaqueous and aqueous systems, comprising:

at least one measuring unit having at least one ATR body and at least one infrared light source, wherein the at least one ATR body has at least two plane, essentially parallel boundary surfaces and is transparent or partially transparent to measuring radiation and has a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface where the measuring radiation is middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times on at least one of the plane, parallel boundary surfaces of the at least one ATR body, including one or more quantum cascade lasers that can emit electromagnetic radiation of different frequencies, and/or of different frequency bands in a time sequence.

10. (Previously presented) Infrared (IR) measuring device, for essentially simultaneous, qualitative and quantitative determination of components in nonaqueous and aqueous systems, comprising:

at least one measuring unit having at least one ATR body and at least one infrared light source, wherein the at least one ATR body has at least two plane, essentially parallel boundary surfaces and is transparent or partially transparent to measuring radiation and has a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface where the measuring radiation is middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times

on at least one of the plane, parallel boundary surfaces of the at least one ATR body, including at least one quantum cascade laser that can emit electromagnetic radiation in the form of pulses with defined duration.

11. (Previously presented) Infrared measuring device according to Claim 10, wherein the duration of the pulses differs in length and/or the intensity of the pulses differs in magnitude.

12. (Previously presented) Infrared measuring device according to Claim 10, wherein different frequencies or frequency bands of electromagnetic radiation originating from the at least one quantum cascade laser can be emitted sequentially or in any arbitrary sequence.

13. (Previously presented) Infrared measuring device according to Claim 12, wherein the measuring radiation and/or its intensity can be detected according to a multiplex pattern in a wavelength-specifically controllable, pulsewise emittable manner, and/or according to a multiplex pattern of the measuring radiation in a pulsed form.

14. (Canceled)

15. (Previously presented) Infrared measuring device according to Claim 1, wherein the ATR body represents at least one wall of a measuring cell or a part thereof or represents the measuring cell.

16. (Previously presented) Infrared measuring device according to Claim 1, wherein the ATR body is made of a material selected from the group consisting of diamond, sapphire, cadmium telluride, thallium bromide/iodide, silicon, germanium, zinc selenide, zinc sulfide, magnesium difluoride, cesium iodide, silver chloride, calcium difluoride, potassium bromide, sodium chloride, a material transparent to infrared radiation, a polymeric material with a refractive index of greater than or equal to 1.5 and polyethylene.

17. (Previously presented) Infrared measuring device according to Claim 1 further including an evaluation unit that implements one or more factorial analyses, multiple least square algorithms or neural network analyses based on the signals entering the detector.

18. (Previously presented) Infrared measuring device according to Claim 1, wherein at least the ATR body or the measuring unit is thermostated.

19. (Canceled)

20. (Previously presented) Infrared measuring device according to Claim 1, wherein the ATR body can be placed at least on one boundary surface, which can be exposed to a medium to be analyzed, and includes a coating, which is transparent to the an evanescent field of the measuring radiation.

21. (Previously presented) Infrared measuring device according to Claim 20, wherein the coating has a thickness which is either smaller than half of the wavelength of the measuring radiation used or in the range from about 2 nm to about 25 μm.

22. (Previously presented) Infrared measuring device according to Claim 20, wherein the coating has a thickness in the range of one-fourth of the wavelength of the measuring radiation used.

23. (Previously presented) Infrared measuring device according to Claim 20, wherein the coating has an ATR body material layer and the coated ATR body comprises zinc selenide and/or zinc sulfide.

24. (Previously presented) Infrared (IR) measuring device, for essentially simultaneous, qualitative and quantitative determination of components in nonaqueous and aqueous systems, comprising:

at least one measuring unit having at least one ATR body and at least one infrared light source, wherein the at least one ATR body has at least two plane, essentially parallel boundary surfaces and is transparent or partially transparent to measuring radiation and has a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface where the measuring radiation is middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times on at least one of the plane, parallel boundary surfaces of the at least one ATR body; and

at least one computer-aided evaluation unit or at least one detector that includes a photoacoustic detector.

25. (Currently amended) A method of using the infrared measuring device of claim 1 to perform a chemical analysis, ~~the method comprising~~ including using the infrared measuring device ~~of Claim 1~~ for the qualitative ~~qualitatively~~ and/or ~~quantitatively~~ quantitative determination ~~determining the presence~~ of one or more components, selected from the

group consisting of saccharides, urea, creatinine, triglycerides, carbon dioxide, protein, alcohols, ~~and/or~~ phosphoric acid esters and combinations thereof, in nonaqueous or aqueous systems.

26. (Previously presented) The method of Claim 25, where one of beer, wine, fruit juice, spirits or soft drinks is used as an aqueous system.

27. (Previously presented) The method of Claim 25, where one of urine and/or feces is used as an aqueous system.

28. (Previously presented) The method of Claim 25, where one of lymph, saliva and/or blood is used as an aqueous system.

29. (Previously presented) The method of Claim 25, where the washing fluid obtained during dialysis is used as an aqueous system.

30. (Previously presented) The method of Claim 25, where process fluid, waste water or washing liquor is used as an aqueous system.

31. (Previously presented) A method of using the infrared measuring device according to Claim 1, including using the infrared measuring device for the qualitative and/or quantitative determination of components in fruits and vegetables.

32. (Previously presented) A method of using the infrared measuring device according to Claim 1, including using the infrared measuring device for the qualitative and/or quantitative determination of components in milk and dairy products.

33. (Previously presented) Urinal, or a urinal pan, comprising:

at least one ATR body, with at least two plane, essentially parallel boundary surfaces, which is transparent to middle infrared radiation (MIR), and has a refractive index which is higher than that of a medium to be investigated, which is adjacent to at least one boundary surface, into which a laser beam and/or at least one discharge line, into which a measuring unit containing the at least one ATR body with at least two plane, essentially parallel boundary surfaces, which is transparent or partially transparent to a measuring radiation, and has a refractive index, which is higher than that of the medium to be investigated adjacent to at least one boundary surface, into which a laser beam can be coupled, wherein the laser beam is a beam of a quantum cascade laser.

34. (Canceled)

35. (Previously presented) Toilet, including a toilet bowl, comprising:

at least one ATR body with at least two plane, essentially parallel boundary surfaces, which is transparent to middle infrared radiation (MIR), and which has a refractive index, which is higher than that of a medium to be investigated, which is adjacent to at least one boundary surface into which a laser beam can be coupled; and/or at least a drain pipe, into which a measuring unit, especially a measuring cell, containing the at least one ATR body with at least two plane, essentially parallel boundary surfaces, which is transparent or partially transparent to a measuring radiation and has a refractive index which is higher than that of a medium to be investigated, which is adjacent to at least one boundary surface is placed, into which a laser beam can be coupled, wherein the laser beam is a beam of a quantum cascade laser.

36-43. (Canceled)

44. (Previously presented) Cannula, especially a stent, comprising:

at least one measuring cell, especially a flow-through cell, containing at least one ATR body with at least two plane, essentially parallel, boundary surfaces which is transparent or partially transparent to middle infrared radiation (MIR), and which has a refractive index which is higher than that of the medium being investigated, which is adjacent to at least one of the boundary surfaces, into which at least one beam of a quantum cascade laser can be coupled and at least one infrared measuring beam can undergo attenuated total

reflection at least six times along the measuring section, on at least one of the plane, parallel boundary surfaces of the ATR body; and/or at least one hollow body.

45. (Previously Presented) Cannula according to Claim 44, comprising

an infrared measuring device having the at least one ATR body and at least one infrared light source, wherein the measuring unit contains the at least one ATR body, which has at least two plane, essentially parallel boundary surfaces, which are transparent or partially transparent to the measuring beam and which have a refractive index which is higher than that of the medium to be investigated adjacent to at least one boundary surface, where the measuring beam contains middle infrared radiation (MIR) and can undergo attenuated total reflection at least six times on at least one of the plane, parallel boundary surfaces of the at least one ATR body, wherein the at least one ATR body is in working connection with at least one quantum cascade laser and/or a detector and/or an evaluation unit.

46. (Previously presented) A method comprising using the cannula of Claim 44 for the quantitative and/or qualitative determination of two, three, four, five, six or more components in multicomponent mixtures.

47-50. (Canceled)

51. (Previously presented) The infrared measuring device of claim 1, wherein the refractive index is higher than or equal to 1.5.

52. (Previously presented) The infrared measuring device according to Claim 21 wherein the coating has a thickness which is in the range from about 2 μm to about 10 μm.

53-59. (Canceled)

60. (Previously presented) The cannula of claim 44, wherein the refractive index is higher than or equal to 1.5.

61. (Previously Presented) The infrared measuring device of claim 1, wherein the one or more quantum cascade lasers can emit electromagnetic radiation of at least two defined frequencies.

62. (Previously Presented) The infrared measuring device of claim 1, wherein the one or more of the quantum cascade lasers can emit the electromagnetic radiation of the at least one defined frequency or the defined frequency band at a predetermined and defined intensity.

63. (Previously Presented) The infrared measuring device of claim 7, wherein the two or more of the quantum cascade lasers can emit the electromagnetic radiation of the different frequencies or of the different frequency bands at predetermined and defined intensities.

64. (Previously Presented) The infrared measuring device of claim 9, wherein the one or more of the quantum cascade lasers can emit the electromagnetic radiation of the different frequencies or of the different frequency bands at predetermined and defined intensities.

65. (Previously Presented) The infrared measuring device of claim 10, wherein the at least one quantum cascade laser can emit the electromagnetic radiation in the form of the pulses each with a predetermined and defined intensity.

66-70. (Canceled)

71. (Previously presented) The method of claim 25, wherein the qualitatively and/or quantitatively determination of the presence of one or more components selected from the group consisting of saccharides, urea, creatinine, triglycerides, carbon dioxide, protein, alcohols and/or phosphoric acid esters, in nonaqueous or aqueous systems, is performed essentially simultaneously.

72. (Previously Presented) The infrared measuring device according to Claim 21, wherein the thickness is both smaller than half of the wavelength of the measuring radiation and in the range from about 2 nm to about 25 μm.

73. (Previously presented) The method according to Claim 46, wherein said components are selected from the group consisting of saccharides, urea, creatinine, and triglycerides.

74. (Previously presented) The method according to Claim 46, further comprising using the measuring device of Claim 1 for the determination of said components in the body fluids of living organisms.

75. (Previously presented) Infrared measuring device according to Claim 23, wherein said ATR body material layer is a diamond layer.